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XIII.

THE GENUS *ERYTHRONEURA* IN CALIFORNIA
(HOMOPTERA)

BY

E. P. VAN DUZEE

Curator, Department of Entomology

The appearance of McAtee's revision of the genus *Erythroneura* has led me to go over the material in this genus accessible to me here at the Academy of Sciences, with the results noted below. I have never made any special attempt to collect the typhlocybrids here in California and doubtless many more forms will be found when a careful search has been made for them. All specimens listed below were taken by me unless otherwise stated.

1. *Erythroneura obliqua dorsalis* Gillette

Alpine, San Diego County, July 4, 1913; Sisson July 26, 1918.

2. *Erythroneura obliqua nœvus* Gillette

Leona Heights, Alameda County, August (J. C. Bradley); Mill Creek Cañon, San Bernardino County, September 24, 1893.

3. *Erythroneura obliqua fumida* Gillette

San Diego, May 6, 10, 30, 1913; Cuaymaca Mountains, San Diego County, 5,000 feet, October 5, 1913.

4. *Erythroneura ternaria* Van Duzee, new species

Allied to *obliqua*; vertex strongly angled; dorsum with two sanguineous vittæ from middle of vertex to apex of elytra, connivent from middle of clavus. Length, 3.4 mm.

Vertex angled about as in *obliqua*, nearly twice longer at middle than at eye. Color pale yellow; vertex with a squarish red area either side next the eye; these areas are obliquely truncate before the front line of the eyes, leaving a parallel pale vitta between them nearly their own width, and are extended as broad vittæ across the pronotum and basal angles of scutellum to apex of elytra; on the elytra they are narrowed and follow the inner claval nervure to the middle of the claval commissure and on to the tip of the clavus where they join an elongated spot on the inner angle of the corium and are followed by a diffuse vitta on the inner apical areole; corium with indications of two longitudinal yellow vittæ. Last ventral segment of female strongly produced at the middle, which is minutely notched.

Described from two females taken at Mill Creek Cañon, San Bernardino Mountains, September 22, 1923. The red marks on the vertex divide its basal field into three subequal color areas; they do not approach anteriorly as in *obliqua* and the whole insect is proportionately stouter, the female segment is more produced and the vittæ are differently formed.

Type: Female, No. 1531, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, September 22, 1923, at Mill Creek Cañon, San Bernardino County, California.

5. *Erythroneura dentata* Gillette

Berkeley, September 1, 1914; Leona Heights, Alameda County, August (J. C. Bradley); Ocean Beach, San Diego County, May 13, 1913; San Diego, May 4, 6, 1913; Alpine, San Diego County, June 8, 1913; Sweetwater Valley, San

Diego County, June 18, 1913; Fosters, San Diego County, May 24, 1913.

6. *Erythroneura dentata bilocularis* Van Duzee, new subspecies

Form and markings nearly of *dentata* Gillette, to which species it runs in McAtee's tables of 1920. Length, 3 mm.

Head well produced, rounded at the somewhat swollen apex, broader and blunter than in *dentata*. Pronotum broader posteriorly with the sides more oblique than in *dentata*, about a third longer than the vertex. Elytra as in *dentata*, the inner apical areole feebly but distinctly angled at base. Last ventral segment of female abruptly produced on median third, its apex truncate or scarcely notched. Plates of male produced in a long, nearly parallel finger, upturned at tip, much as in *dentata*.

Color clear light yellow paling to whitish at apex and base of vertex, on apical median line and humeral angles of pronotum, inner areas of corium, legs and lower surface; disk of tergum, base of venter and oviduct black; disk of pronotum (notched before) and scutellum dusky red to fuscous, the basal angles of scutellum deeper fuscous. Sometimes the sides of the vertex and cheeks are infuscated. Elytra marked with red about as in *dentata*, the clavus red with a semi-circular spot at apex of scutellum and its apex yellow; corium with a broad semi-circular red vitta resting on the red of the clavus and attaining the base of the inner apical areole, exteriorly reaching to the first, or at least to the second, sector, these markings leaving two nearly circular pale spots when the elytra are closed, one resting on apex of scutellum, the other covering apical third of clavus; apical areoles faintly fuliginous, the veins yellow; stigma faintly whitish.

Described from two male and six female examples taken by me at San Diego May 20 and June 28, 1913, and near Alpine, San Diego County, June 18 and 21, 1913. Apparently this is but a strongly colored variety of *dentata*, as one individual shows traces of the yellow marks on the pronotum and has the red marks of the corium indicated only by a yellowish cloud.

Type: Male, No. 1532, and *allotype*, female, No. 1533, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, June 21, 1914, at **Torrey Pines, San Diego, California**. Paratypes in collection of the author.

7. *Erythroneura abolla varia* McAtee

Alpine, San Diego County, July 4, 1913.

8. *Erythroneura lusoria* Van Duzee, new species

Near *illinoensis* and possibly but a subspecies. Length, 3 mm.

Head distinctly longer and more pointed than in *illinoensis*; base of inner apical areole evenly curved as in the *obliqua* group. Color when fully pigmented, whitish, more or less tinged with yellow, especially beneath; head immaculate; pronotum with an orange discal spot near base; scutellum immaculate; elytra with six red spots and two black points; clavus with three red spots, a small one at base, another at tip and a larger angulate median one which quite crosses the disk and sometimes connects with the anterior one along the suture; radial area of corium with a square spot just behind the large one of the clavus and an elongated one near the apex; first transverse vein red; base of inner apical areole with a black spot and a smaller one is near the middle of the costa. Male valve short; plates broad, oblique at apex, but little surpassing the middle of the elongated pygofers.

Described from one male and eighteen female examples taken by Dr. J. C. Bradley at Leona Heights, Alameda County, in August. In immature examples the spots nearly or quite disappear.

Type: Male, No. 1534, and *allotype*, female, No. 1535, Mus. Calif. Acad. Sci., collected by J. C. Bradley at **Leona Heights, Alameda County, California**.

9. *Erythroneura coryli* Van Duzee, new species

Allied to *harti* but with the red elytral markings reaching to the transverse veins. Length, 3 mm.

Narrower than *harti* with a more pointed vertex; two spots on base of vertex, sometimes fused, one on anterior margin of pronotum, behind each eye and a larger one on posterior disk of pronotum, red or yellow, the latter mark obcuneiform and notched anteriorly; scutellum marked with red or yellow at either angle; elytra with a sanguineous vitta beginning near the sutural base of clavus, extended inward to cover the middle third of the claval commissure, then deflected to the stigma and back to the base of the fourth apical cell; sometimes this red invades the transverse and adjoining veins; a black dot on base of inner apical areole and usually another at apex of stigma; apical areoles slightly tinged with fulvous.

Described from four males taken by me on hazel bushes at Cazadero, April 13 and 14, 1918.

Type: Male, No. 1536, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 13, 1918, at Cazadero, California.

10. *Erythroneura comes ziczac* Walsh

Oakland Hills, Alameda County, April 16, 1916; Lakeport, Lake County, August 2, 1916; Leona Heights, Alameda County, August (J. C. Bradley).

11. *Erythroneura comes octonotata* Walsh

Laurel Dell, Lake County, August 3, 1916.

12. *Erythroneura comes coloradensis* Gillette

Lakeside, San Diego County, May 8, 1913; Alpine, San Diego County, October 4, 1913; Pine Hills, San Diego County, 4,200 feet, October 20, 1913.

13. *Erythroneura tergemina* Van Duzee, new species

Aspect of *lusoria* but pertaining to the *bipunctata* group in McAtee's paper and apparently related to *abolla* but with a more pointed vertex and marked by a black point at apex of head. Length, 3 mm.

Head about as in *tricincta* or a little more acute; base of inner apical areole obviously but not distinctly angled. Last

ventral segment of female produced in an acute point. Color whitish, a little tinged with yellow on the head and abdomen, the tergum marked with fuscous or black near base; vertex with a large orange or red basal spot either side of the median line, usually with a fuscous point at its inner apical angle, these forming a triangle with the black point on the tip of the head; pronotum with two large discal spots which may be extended into an irregular transverse band; basal angles of scutellum red, its apex yellow with the extreme tip minutely black; elytra with about six orange or red spots, two on clavus, one basal and one medial, one adjoining the latter on radial area of corium and one at its apex, an indication on middle of costa and another at apex of stigma; apical areoles slightly enfumed but without black points.

Type: Female, No. 1537, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, October 4, 1913, at Alpine, San Diego County, California. One paratype, same data, in collection of author.